REMARKS

The Official Action mailed July 27, 2006 has been carefully considered. Reconsideration and allowance of the subject application, as amended, are respectfully requested.

Amendments to the Claims

Claim 1 has been amended to recite that an acid-modified chlorinated polyolefin resin with a monomer mixture containing a (meth) acrylate ester monomer having one hydroxyl group and another vinyl monomer is graft-copolymerized in the presence of "one or more of cyclic ether compounds selected from the group consisting of dioxane, 1,4-dionaxane-2,3-diol 1,3-dioxolane, β-propiolactone, monomethylpropiolactone, dimethyl propiolactone, furan, 2,3-dihydrofuran, 2,5-dihydrofuran, tetrahydrofuran, 2,2,5,5-tetramethyltetrahydrofuran, and 2-heptyltetrahydrofuran." Support for this amendment may be found on page 9, line 16 to page 10, line 4, which recites:

"[e]xamples of the cyclic ether compound include dioxane, 1,4-dioxane-2,3-diol and 1,3-dioxolane; examples of the oxetane compound include 2-methyl-2-hydroxymethyl-1,3-epoxypropane, β-propiolactone and mono- and dimethylpropiolactone; and examples of the furan compound include furan, 2,3-dihydrofuran, 2,5-dihydrofuran, tetrahydrofuran, 2,2,5,5-tetramethyltetrahydrofuran and 2-heptyltetrahydrofuran. Among these compounds, dioxane, 1,3-dioxolane and tetrahydrofuran can be used particularly preferably."

Claim 4 has been similarly amended. No new matter is believed entered by these amendments.

Rejections Under 35 USC §103

Claims 1-5 stand rejected under 35 USC §103(a) as being unpatentable over Masuda et al. U.S. Patent No. 6,681,471 as well as Masuda et al. in view of JP 11-189696.

Applicants refer to the previous response of May 22, 2006 demonstrating that the claimed invention requires a single graft-polymerization step, in which an acid-modified chlorinated polyolefin resin is graft-polymerized with a monomer mixture including both a (meth)acrylate

ester monomer having a hydroxyl group and another vinyl monomer. It is now asserted however, that there is no benefit of using a mixture of monomers for a graft-polymerization in a single step as Masuda discloses the same starting acrylic modified chlorinated polyolefin resin and the same grafting monomers and the use of a number of solvents including tetrahydrofuran.

However, in order to establish a prima facie case of obviousness, one must demonstrate a suggestion or motivation to modify Masuda to arrive at a single step polymerization process. As correctly recognized by the Examiner, Masuda does not disclose a graft-polymerization of a monomer mixture with an acid-modified chlorinated polyolefin in one step. Accordingly, without such a teaching Masuda alone does not appear to present a suggestion or motivation for modification. This appears to be recognized as the '696 reference is then referred to for disclosing a "carboxylated chlorinated polyolefin (A) grafted with (meth)acrylic acid monomer (B) and monomer (C) having (neth)acrylic ester and a hydroxyl group in the molecule."

JP 11-189696 fails to make up for the deficiencies of Masuda et al. and teaches away from the presently claimed invention. As the Examiner properly notes, the '696 references discloses in the abstract graft copolymerization of carboxylated, chlorinated polyolefin, a monomer containing an ethylenically unsaturated bond in the molecule and a monomer containing both an ethylenically unsaturated bond and a hydroxyl group in the molecule. However, the '696 references does not teach or suggest graft-copolymerizing an acid-modified chlorinated polyolefin resin with a monomer mixture containing a (meth) acrylate ester monomer having one hydroxyl group and another vinyl monomer in the presence of one or more of cyclic ether compounds selected from the group consisting of dioxane, 1,4-dionaxane-2,3-diol 1,3-dioxolane, β-propiolactone, monomethylpropiolactone, dimethyl propiolactone, furan, 2,3-dihydrofuran, 2,5-dihydrofuran, tetrahydrofuran, 2,2,5,5-tetramethyltetrahydrofuran, and 2-heptyltetrahydrofuran.

More specifically, in the presently claimed invention, when cyclic ether compounds are used "it is expected that the cyclic ether compound is bonded with an acid anhydride in the case of graft polymerization and, after forming a coating film, the cyclic ether compound is removed from the coating film during drying." See page 9, lines 11-15 of the present application.

However, the '696 reference specifically states that "[t]he solvents used for a reaction does not interfere...," teaching away from the presently claimed invention and highlighting what appears to be the unpredictability of the various solvent compositions that may be used in a single step reaction. See paragraph [0024] of the '696 machine translation

The choice of solvent may dramatically effect the final properties of the composition and when considering the claimed invention as a whole, not only is the subject matter literally recited in the claims considered but also those properties of the subject matter that are inherent in the subject matter and disclosed in the specification. *In re Antonie*, 195 USPQ 6,8 (CCPA 1977). Table 2 of the specification of the presently claimed invention illustrates this point summarizing the differences in properties obtained by utilizing one or more of the selected cyclic ether compounds versus properties obtained by utilizing a solvent such as toluene. The combination of the single step graft polymerization in the presence of the selected one or more cyclic ether compounds leads to a coating composition for polyolefin material that "are excellent in both high-temperature stability and low-temperature stability" and "are excellent in appearance of the coating film, and are also excellent in initial adhesion and adhesion after a hot water resistance test" as compared to the prior compositions where toluene and no cyclic ether compounds are utilized as solvents as seen in Table 2. See Paragraph [0076] of the present application.

In addition, it appears, from the machine translation of the '696 disclosure, that the '696 references teaches away from the use of a monomer including a hydroxyl group such as 2-hydroxyethyl (meth)acrylate, 2-hydroxypropyl (meth)acrylate, 2-hydroxy butyl (meth)acrylate, etc. These compounds appear to cause the reaction mixture to separate into two layers or become cloudy. See paragraph 0030-0031 of the machine translation of the '696 reference. However, if the Examiner disagrees with this characterization, please let the undersigned know.

Applicants also respectfully note that an electronic signature or S-signature was included in the previous response and an electronic signature is included herewith as well, in accordance with 37 CFR 1.4(d)(2).

Having dealt with all the objections raised by the Examiner, it is respectfully submitted that the present application, as amended, is in condition for allowance. Thus, early allowance is earnestly solicited.

If the Examiner desires personal contact for further disposition of this case, the Examiner is invited to call the undersigned Attorney at 603.668.6560.

In the event there are any fees due, please charge them to our Deposit Account No. 50-2121.

Respectfully submitted,
Najima et al.

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